WE CLAIM:

What is claimed:

1. A composition comprising:

i) a cationic molecule of interest,

ii) a cationic organic molecule; and

iii) a high surface area substrate;

wherein the cationic molecule of interest and the organic cationic compound are chemically bound to the high surface area substrate.

2. The composition of Claim 1, wherein said substrate is a silicate.

3. The composition of Claim 2, wherein said silicate is zeolite.

4. The composition of Claim 1, wherein said substrate is a clay.

5. The composition of Claim 1, wherein said organic cationic compound comprises a cation selected from the group consisting of quaternary ammonium, quaternary phoshponium, and ternary sulfonium.

6. The composition of Claim 1, wherein said organic cationic compound comprises a linear, saturated alkyl moiety having 12 to 22 carbon atoms and one or more moieties selected from the group consisting of a linear, saturated alkyl moiety having 12 to 22 carbon atoms; a branched, saturated alkyl moiety having 12 to 22 carbon atoms; a linear, unsaturated alkyl moiety having 12 to 22 carbon atoms; a branched, unsaturated

alkyl moiety having 12 to 22 carbon atoms; a benzyl moiety including fused ring moieties having linear or branched 1 to 22 carbon atoms in the alkyl portion of the structure; a substituted benzyl moiety including fused ring moieties having linear or branched 1 to 22 carbon atoms in the alkyl portion of the structure; a phenyl moiety and substituted phenyl including fused ring aromatic substituents; a substituted phenyl moiety including fused ring aromatic substituents; a beta, gamma-unsaturated moiety having six or less carbon atoms or hydroxyalkyl groups having two to six carbon atoms; and hydrogen.

7. The composition of Claim 1, wherein said organic cationic compound comprises a branched, saturated alkyl moiety having 12 to 22 carbon atoms and one or more moieties selected from the group consisting of a linear, saturated alkyl moiety having 12 to 22 carbon atoms; a branched, saturated alkyl moiety having 12 to 22 carbon atoms; a linear, unsaturated alkyl moiety having 12 to 22 carbon atoms; a branched, unsaturated alkyl moiety having 12 to 22 carbon atoms; a benzyl moiety including fused ring moieties having linear or branched 1 to 22 carbon atoms in the alkyl portion of the structure; a substituted benzyl moiety including fused ring moieties having linear or branched 1 to 22 carbon atoms in the alkyl portion of the structure; a phenyl moiety and substituted phenyl including fused ring aromatic substituents; a substituted phenyl moiety including fused ring aromatic substituents; a beta, gamma-unsaturated moiety having six or less carbon atoms or hydroxyalkyl groups having two to six carbon atoms; and hydrogen.

8. The composition of Claim 1, wherein said organic cationic compound comprises a linear, unsaturated alkyl moiety having 12 to 22 carbon atoms and one or

more moieties selected from the group consisting of a linear, saturated alkyl moiety having 12 to 22 carbon atoms; a branched, saturated alkyl moiety having 12 to 22 carbon atoms; a linear, unsaturated alkyl moiety having 12 to 22 carbon atoms; a branched, unsaturated alkyl moiety having 12 to 22 carbon atoms; a benzyl moiety including fused ring moieties having linear or branched 1 to 22 carbon atoms in the alkyl portion of the structure; a substituted benzyl moiety including fused ring moieties having linear or branched 1 to 22 carbon atoms in the alkyl portion of the structure; a phenyl moiety and substituted phenyl including fused ring aromatic substituents; a substituted phenyl moiety including fused ring aromatic substituents; a beta, gamma-unsaturated moiety having six or less carbon atoms or hydroxyalkyl groups having two to six carbon atoms; and hydrogen.

9. The composition of Claim 1, wherein said organic cationic compound comprises a branched, unsaturated alkyl moiety having 12 to 22 carbon atoms and one or more moieties selected from the group consisting of a linear, saturated alkyl moiety having 12 to 22 carbon atoms; a branched, saturated alkyl moiety having 12 to 22 carbon atoms; a linear, unsaturated alkyl moiety having 12 to 22 carbon atoms; a branched, unsaturated alkyl moiety having 12 to 22 carbon atoms; a benzyl moiety including fused ring moieties having linear or branched 1 to 22 carbon atoms in the alkyl portion of the structure; a substituted benzyl moiety including fused ring moieties having linear or branched 1 to 22 carbon atoms in the alkyl portion of the structure; a phenyl moiety and substituted phenyl including fused ring aromatic substituents; a substituted phenyl moiety including fused ring aromatic substituents; a ß, γ-unsaturated moiety having six or less carbon atoms or hydroxyalkyl groups having two to six carbon atoms; and hydrogen.

10. The composition of Claim 4, wherein said clay is selected from the group consisting of a bentonite, a montmorillonite, a beidellite, a hectorite, a saponite, a stevensite, and mixtures thereof.

11. The composition of Claim 1, wherein said cationic molecule is a component of a dye.

12. The composition of Claim 1, wherein said cationic molecule is a component of a pigment.

13. The composition of Claim 1, wherein said cationic molecule is a component of a catalyst.

14. The composition of Claim 1, wherein said cationic molecule is a component of a redox agent.

15. The composition of Claim 1, wherein said cationic molecule is a component of a medicinal substance.

16. The composition of Claim 11, wherein said dye is selected from the group consisting of methylene blue, basic Yellow 57, Jarocol Staw Yellow, Basic Green 4, Basic Red 104, methyl green, pyocyanine, phenosafranin and celestine blue.

17. The composition of Claim 15, wherein said medicinal substance is selected from the group consisting of zinc ricinoleicite, ricinoleic acid, calcium ethylbutanoate, aluminum nicotinate.

18. A method of increasing the surface area of an cationic molecule of interest in an application system, comprising bonding the cationic molecule of interest and the cationic organic compound to a high surface area substrate wherein said substrate is capable of cation exchange because of mobile cations located at its surface; thereby forming a composition comprising a complex between the cationic molecule of interest, the cationic organic compound and the high surface substrate complex wherein the cationic molecule of interest incorporated onto the high surface area substrate displays an enhanced surface area in said application system than the cationic molecule of interest would display alone.

19. The product produced by the method of Claim 18 wherein the cationic molecule of interest has an enhanced surface area.

20. The method of claim 18 wherein the enhanced surface area of the cationic molecule of interest confers a desired physical, chemical, biological or therapeutic benefit to an application system.

21. The method of Claim 20, wherein said physical, chemical, biological or therapeutic activity is selected from the group consisting of optical activity, insolubility, catalytic activity, oxidative activity, reductive activity, anti-cholinergic activity, anti-spasmodic activity, anti-microbial activity, anti-fungal activity, muscle-relaxant activity, disinfectant activity, anti-bacterial activity, leachability and dispersibility.

22. The method of claim 18 for producing a dry powder pigment.

23. A dry powder pigment produced by the method of Claim 22.

24. The method of claim 18 for producing a dry powder colorant.

25. A dry powder colorant produced by the method of Claim 24.

26. The method of claim 18 for reducing the leachibility of a cationic molecule of interest in an application system.

27. A product produced by the method of Claim 26 wherein the cationic molecule of interest has reduced leachibility.

28. A method of tinting a plastic comprising incorporating the dry powder pigment of Claim 23 into said plastic.

29. A method of tinting a polymer comprising incorporating the dry powder pigment of Claim 23 into said polymer.

30. A method of tinting a resin comprising incorporating the dry powder pigment of Claim 23 into said said resin.

31. A tinted plastic produced by the method of Claim 28.

32. A tinted polymer produced by the method of Claim 29.

33. A tinted resin produced by the method of Claim 30.

34. A method of tinting a plastic comprising incorporating the dry powder colorant of Claim 25 into said plastic.

35. A method of tinting a polymer comprising incorporating the dry powder colorant of Claim 25 into said polymer.

36. A method of tinting a resin comprising incorporating the dry powder colorant of Claim 25 into said resin.

37. A tinted plastic produced by the method of Claim 34.

38. A tinted polymer produced by the method of Claim 35.

39. A tinted resin produced by the method of Claim 36.